



1600

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/042,059BDATE: 09/12/2002
TIME: 14:58:41Input Set : A:\EP.txt
Output Set: N:\CRF4\09122002\J042059B.raw

3 <110> APPLICANT: Gellissen, Gerd
4 Braus, Gerhard
5 Pries, Ralph
6 Krappmann, Sven
7 Strasser, Alexander
9 <120> TITLE OF INVENTION: Nucleic Acid Molecule Comprising a Nucleic Acid Coding for a
Polypeptide

10 with Chorismate Mutase Activity
12 <130> FILE REFERENCE: 029474-5007-00
14 <140> CURRENT APPLICATION NUMBER: 10/042059B
15 <141> CURRENT FILING DATE: 2001-10-25
17 <150> PRIOR APPLICATION NUMBER: DE 199 19 124.7
18 <151> PRIOR FILING DATE: 1999-04-27
20 <160> NUMBER OF SEQ ID NOS: 7
22 <170> SOFTWARE: PatentIn version 3.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 843
26 <212> TYPE: DNA
27 <213> ORGANISM: Hansenula polymorpha
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (1)..(843)
32 <223> OTHER INFORMATION:

34 <400> SEQUENCE: 1
35 atg gac ttt atg aag cca gaa aca gtg ctg gac ctt ggc aac att aga 48
36 Met Asp Phe Met Lys Pro Glu Thr Val Leu Asp Leu Gly Asn Ile Arg
37 1 5 10 15
39 gat gcc ttg gtc cgg atg gag gat acg atc atc ttc aac ttt atc gag 96
40 Asp Ala Leu Val Arg Met Glu Asp Thr Ile Ile Phe Asn Phe Ile Glu
41 20 25 30
43 cgg tcg cag ttc tat gcg tcg ccc tcg gta tac aaa gtc aac cag ttc 144
44 Arg Ser Gln Phe Tyr Ala Ser Pro Ser Val Tyr Lys Val Asn Gln Phe
45 35 40 45
47 cct att ccc aac ttc gac ggc tcg ttc ttg gac tgg ctg ttg tcg cag 192
48 Pro Ile Pro Asn Phe Asp Gly Ser Phe Leu Asp Trp Leu Leu Ser Gln
49 50 55 60
51 cac gag cga atc cat tcg cag gtg agg aga tac gac gcg cca gac gag 240
52 His Glu Arg Ile His Ser Gln Val Arg Arg Tyr Asp Ala Pro Asp Glu
53 65 70 75 80
55 gtg cct ttt ttc ccc aac gtg ctg gaa aaa acg ttt ctg ccc aag atc 288
56 Val Pro Phe Phe Pro Asn Val Leu Glu Lys Thr Phe Leu Pro Lys Ile
57 85 90 95
59 aac tac cca tcg gtg cta gcc tcc tac gcg gat gaa atc aac gtc aac 336
60 Asn Tyr Pro Ser Val Leu Ala Ser Tyr Ala Asp Glu Ile Asn Val Asn

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61	100	105	110	
63	aaa gag ata ctc aag atc tac acg tca gag ata gta cca gga ata gct			384
64	Lys Glu Ile Leu Lys Ile Tyr Thr Ser Glu Ile Val Pro Gly Ile Ala			
65	115	120	125	
67	gca ggc agc gga gag cag gag gac aac ctt ggc tcg tgc gca atg gcc			432
68	Ala Gly Ser Gly Glu Gln Glu Asp Asn Leu Gly Ser Cys Ala Met Ala			
69	130	135	140	
71	gac atc gag tgc ctg cag tcg cta tcc aga aga atc cat ttt ggc cgt			480
72	Asp Ile Glu Cys Leu Gln Ser Leu Ser Arg Arg Ile His Phe Gly Arg			
73	145	150	155	160
75	ttt gtc gca gag gct aaa ttt atc agt gag ggg gac aag att gtg gat			528
76	Phe Val Ala Glu Ala Lys Phe Ile Ser Glu Gly Asp Lys Ile Val Asp			
77	165	170	175	
79	ctg atc aaa aag aga gat gtg gaa ggc att gag gcg ctc atc aca aac			576
80	Leu Ile Lys Lys Arg Asp Val Glu Gly Ile Glu Ala Leu Ile Thr Asn			
81	180	185	190	
83	gcc gag gtc gaa aaa cgg atc ttg gac aga ctt ctg gag aag gga agg			624
84	Ala Glu Val Glu Lys Arg Ile Leu Asp Arg Leu Leu Glu Lys Gly Arg			
85	195	200	205	
87	gcg tat gga aca gac ccg aca cta aag ttc acg cag cac att cag agc			672
88	Ala Tyr Gly Thr Asp Pro Thr Leu Lys Phe Thr Gln His Ile Gln Ser			
89	210	215	220	
91	aag gtg aag ccc gag gtg att gtg aaa atc tac aag gat ttc gtg att			720
92	Lys Val Lys Pro Glu Val Ile Val Lys Ile Tyr Lys Asp Phe Val Ile			
93	225	230	235	240
95	ccg ctc acg aag aag gtc gaa gtc gac tac ttg ctg aga cgg ctg gag			768
96	Pro Leu Thr Lys Lys Val Glu Val Asp Tyr Leu Leu Arg Arg Leu Glu			
97	245	250	255	
99	gac gag gag gac gat gat gcg acg cag aaa agc ggc ggc tac gtt gac			816
100	Asp Glu Glu Asp Asp Ala Thr Gln Lys Ser Gly Gly Tyr Val Asp			
101	260	265	270	
103	cgg ttt ctc tcc tct ggc ttg tac tag			843
104	Arg Phe Leu Ser Ser Gly Leu Tyr			
105	275	280		
108	<210> SEQ ID NO: 2			
109	<211> LENGTH: 280			
110	<212> TYPE: PRT			
111	<213> ORGANISM: Hansenula polymorpha			
113	<400> SEQUENCE: 2.			
115	Met Asp Phe Met Lys Pro Glu Thr Val Leu Asp Leu Gly Asn Ile Arg			
116	1	5	10	15
119	Asp Ala Leu Val Arg Met Glu Asp Thr Ile Ile Phe Asn Phe Ile Glu			
120	20	25	30	
123	Arg Ser Gln Phe Tyr Ala Ser Pro Ser Val Tyr Lys Val Asn Gln Phe			
124	35	40	45	
127	Pro Ile Pro Asn Phe Asp Gly Ser Phe Leu Asp Trp Leu Leu Ser Gln			
128	50	55	60	
131	His Glu Arg Ile His Ser Gln Val Arg Arg Tyr Asp Ala Pro Asp Glu			
132	65	70	75	80

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135 Val Pro Phe Phe Pro Asn Val Leu Glu Lys Thr Phe Leu Pro Lys Ile
 136 85 90 95
 139 Asn Tyr Pro Ser Val Leu Ala Ser Tyr Ala Asp Glu Ile Asn Val Asn
 140 100 105 110
 143 Lys Glu Ile Leu Lys Ile Tyr Thr Ser Glu Ile Val Pro Gly Ile Ala
 144 115 120 125
 147 Ala Gly Ser Gly Glu Gln Glu Asp Asn Leu Gly Ser Cys Ala Met Ala
 148 130 135 140
 151 Asp Ile Glu Cys Leu Gln Ser Leu Ser Arg Arg Ile His Phe Gly Arg
 152 145 150 155 160
 155 Phe Val Ala Glu Ala Lys Phe Ile Ser Glu Gly Asp Lys Ile Val Asp
 156 165 170 175
 159 Leu Ile Lys Lys Arg Asp Val Glu Gly Ile Glu Ala Leu Ile Thr Asn
 160 180 185 190
 163 Ala Glu Val Glu Lys Arg Ile Leu Asp Arg Leu Leu Glu Lys Gly Arg
 164 195 200 205
 167 Ala Tyr Gly Thr Asp Pro Thr Leu Lys Phe Thr Gln His Ile Gln Ser
 168 210 215 220
 171 Lys Val Lys Pro Glu Val Ile Val Lys Ile Tyr Lys Asp Phe Val Ile
 172 225 230 235 240
 175 Pro Leu Thr Lys Lys Val Glu Val Asp Tyr Leu Leu Arg Arg Leu Glu
 176 245 250 255
 179 Asp Glu Glu Asp Asp Asp Ala Thr Gln Lys Ser Gly Gly Tyr Val Asp
 180 260 265 270
 183 Arg Phe Leu Ser Ser Gly Leu Tyr
 184 275 280
 187 <210> SEQ ID NO: 3
 188 <211> LENGTH: 1655
 189 <212> TYPE: DNA
 190 <213> ORGANISM: Hansenula polymorpha
 192 <220> FEATURE:
 193 <221> NAME/KEY: gene
 194 <222> LOCATION: (1)..(1655)
 195 <223> OTHER INFORMATION: 1,8 kb genomic DNA-fragment from Hansenula polymorpha
 198 <220> FEATURE:
 199 <221> NAME/KEY: gene
 200 <222> LOCATION: (1)..(1655)
 201 <223> OTHER INFORMATION: 1,8 kb genomic DNA-fragment from Hansenula polymorpha
 204 <400> SEQUENCE: 3
 205 cccggcccaa tgccagcaat atggagacgt ttaggcagaa taggcgttcc atacttctca 60
 207 cgctgcttgt tgccaccgga atatacaccg cattgcagtt tgcacacatc atactatatg 120
 209 acgattacat tggcggAACG tATCGCAGT cgctcacgag acgcattAGA atgacAGAGA 180
 211 aatcgcgaaa cgaccttata gacgcacgtg aaaactacgg gtttggaggc agcaaggagg 240
 213 agcgaatcca gcggTTTTG tggttcagac atcttcgtg gcttttaggc gaggataAGC 300
 215 gaacttgagg agcgtTTTTT tttcctgtt tagTTTTGT aggtatggac tttatgaAGC 360
 217 cagaaaacagt gctggacctt ggcaacatTA gagatgcctt ggtccggatG gaggatacga 420
 219 tcatcttcaa ctttatcgag cggTCGcAGT tctatgcgtc gccctcgta tacaAAGTca 480
 221 accagttccc tattccaaac ttcgacggct cgttcttggA ctggctttG tcgcagcAcG 540
 223 agcgaatcca ttgcaggtg aggatacG acgcGCCAGA cgaggTgcct ttttccccca 600

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225	acgtgctgga	aaaaacgttt	ctgccccaga	tcaactaccc	atcggtgcta	gcctcctacg	660
227	cggatgaaat	caacgtcaac	aaagagatac	tcaagatcta	cacgtcagag	atagtaccag	720
229	gaatagctgc	aggcagcgga	gagcaggagg	acaaccttgg	ctcggtcgca	atggccgaca	780
231	tcgagtcct	gcagtcgcta	tccagaagaa	tccatttgg	ccgttttgc	gcagaggcta	840
233	aatttatcag	tgagggggac	aagattgtgg	atctgatcaa	aaagagagat	gtgaaaggca	900
235	ttgaggcgct	catcacaaac	gccgaggctg	aaaacacggat	cttggacaga	cttctggaga	960
237	agggaaagggc	gtatgaaaca	gaccgcacac	taaagttcac	gcagcacatt	cagagcaagg	1020
239	tgaagcccg	ggtgattgtg	aaaatctaca	aggatttcgt	gattccgctc	acgaagaagg	1080
241	tgcgaagtgc	ctacttgctg	agacggctgg	aggacgagga	ggacgatgat	gcgcacgcaga	1140
243	aaagcggcgg	ctacgttgc	cgggttctct	cctctggctt	gtactagaaa	ttaaaatttt	1200
245	cagtacttta	attattctcg	aattcttagtt	cagataccgc	atggtaattt	caaaggccag	1260
247	aaaagtggcc	gcgttggctg	gggcagctct	cagaatagtc	ggcgagaatc	ctttgactag	1320
249	ccccccaggca	ccgctctgtc	tccaaataacc	cctaataagtc	tcaacacgcat	ttctataaaac	1380
251	cagtttcttg	tagttgtccg	tctgcatgtt	ggacttgate	acatcgatcg	gataaaatact	1440
253	gaaccacatc	ccgtaacctg	ccagcgcccc	aaagacgcag	agttccagt	tctcgatgtc	1500
255	cttcctggca	atattcccg	actcgatctc	gttttcacg	agagttcaa	aagttagaaaa	1560
257	atacgctcog	ctacccaaac	tttctcttgc	cagcgttaggt	cccagacccc	ggttagattaa	1620
259	cttgcgtgcct	cccgatgtt	acagcttctt	gatcc			1655

262 <210> SEQ ID NO: 4

263 <211> LENGTH: 20

264 <212> TYPE: DNA

C--> 265 <213> ORGANISM: Artificial

267 <220> FEATURE:

268 <223> OTHER INFORMATION: Oligonucleotide

270 <400> SEQUENCE: 4

271 aatttaaccct cactaaagg

20

274 <210> SEQ ID NO: 5

275 <211> LENGTH: 22

276 <212> TYPE: DNA

C--> 277 <213> ORGANISM: Artificial

279 <220> FEATURE:

280 <223> OTHER INFORMATION: Oligonucleotide

282 <400> SEQUENCE: 5

283 gtaatacgac tcactatagg gc

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286 <210> SEQ ID NO: 6

287 <211> LENGTH: 26

288 <212> TYPE: DNA

C--> 289 <213> ORGANISM: Artificial

291 <220> FEATURE:

292 <223> OTHER INFORMATION: Oligonucleotide

294 <400> SEQUENCE: 6

295 atatagatct aaaaaaacta aacagg

26

298 <210> SEQ ID NO: 7

299 <211> LENGTH: 28

300 <212> TYPE: DNA

C--> 301 <213> ORGANISM: Artificial

303 <220> FEATURE:

304 <223> OTHER INFORMATION: Oligonucleotide

306 <400> SEQUENCE: 7

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/042,059B

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TIME: 14:58:41

Input Set : A:\EP.txt
Output Set: N:\CRF4\09122002\J042059B.raw

307 atatagatct gatgcgacgc agaaaagc

28

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/042,059B

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TIME: 14:58:42

Input Set : A:\EP.txt
Output Set: N:\CRF4\09122002\J042059B.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 9

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:4,5,6,7

VERIFICATION SUMMARY

PATENT APPLICATION: **US/10/042,059B**

DATE: 09/12/2002

TIME: 14:58:42

Input Set : **A:\EP.txt**

Output Set: **N:\CRF4\09122002\J042059B.raw**

L:265 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:4
L:277 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:5
L:289 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:6
L:301 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:7